

## REMARKS

Examiner has objected to the specification due to certain informalities. At page 11, line 17, the reference numeral for "device controller" has been corrected to be --410--.

Examiner has rejected claims 1, 8, and 21 under 35 U.S.C. §112, second paragraph, as being indefinite, believing that the expression "adding informational value" to be unclear. Applicant has amended the claims accordingly.

Examiner has rejected claim 1 under 35 U.S.C. §112, second paragraph, as having insufficient antecedent basis for the expressions "first data" and "second data". Applicant has amended claim 1 accordingly.

Examiner has rejected claims 7 and 11 under 35 U.S.C. §112, second paragraph, as being indefinite. These claims have been cancelled without prejudice, thereby making the rejection moot.

Examiner has rejected claims 1 under 35 U.S.C. §102 (e) as being anticipated by U.S. Patent No. 6,437,881 to Baba et al. ("Baba"). Baba discloses apparatus and method for processing and communicating image data through a public telephone line or a LAN. A color facsimile machine is one example of an apparatus which would benefit from Baba's invention. When data includes a mixed image of characters and images (photographs) and is subjected to data compression, either the amount of compressed data is large or the image portion quality is compromised. See col. 1, lines 29-43. Baba generates "separating information" by extracting a characteristic quantity of image data. "Separating information is employed as selecting data for selecting either of two images separated by the two-layer separating portion 13." Col. 4, lines 10-12. An example of the separated data is that of (a) character information and (b) picture information. See, col. 4, lines 15-21. When the time comes to reconstruct the image on an output device (for example with a printer, in accordance with col. 3, lines 58-62), a "separating information plane, a character information plane, and a picture information plane are fetched from formatted image data so as to make match at least the resolution of character information plane and that of the picture information plane.

Then either of character information or picture information is selected in accordance with separating information of the separating information plane so as to be transmitted. As a result, the image can be reconstructed" Col. 22, lines 26-35.

The standard under §102 for anticipation is exacting. Anticipation requires that all of the elements of the claimed invention, arranged as set forth in the claim, be disclosed in a single reference. The Baba reference fails this exacting standard for the claims of the present application as amended.

Independent claim 1 now requires that the second information be unrelated to and independent of the first information. Baba's character information and Baba's picture information derive from the same source and are therefore related to each other. Clearly, the fact that a third informational set, the separating information, must be used to recreate either the character information or the picture information demonstrates that the Baba's first and second information are not unrelated and independent.

Examiner has rejected claim 17 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,373,965 to Liang ("Liang"). However, Examiner has stated that claims 18 and 20, dependent upon claim 17, would be allowable if rewritten in independent form including all of the limitation of claim 17 and any intervening claims. Accordingly, Applicant has rewritten claim 18 to include the limitations of claim 17 and cancelled claim 17. Additionally, Applicant has rewritten claim 20 into independent form to include the limitations of claim 17. Therefore, Examiner's rejection of claim 17 is now moot.

Examiner has rejected claims 2, 3, 6, 8, 10, 12, 14, 21, and 22 under 35 U.S.C. §103(a) as being unpatentable over Baba in view of U.S. Patent No. 5,168,552 to Vaughn et al. ("Vaughn"). Vaughn discloses methods for improving resolution and print quality in a four-color inkjet printing system by using true black rather than composite black. A problem noted by Vaughn is that a minimum spacing must be observed between the dots of true black and the dots of color ink on a printed page. Under conventional methods, the spacing results in a lighter than desired black ink perceived darkness. One of the operations identifies color graphics data which includes a composite black requirement (color bits in all three CMY planes) and replaces the CMY dots requirement with a single true black dot. See col. 3, lines 4-21.

Independent claims 8, 12, and 21 have been amended in a manner similar to the amendment clarifications made herein to independent claim 1. It is now clearly stated that the second information shall be unrelated to and independent of the first information. Baba does not teach that unrelated, independent information can be treated as claimed. Vaughn teaches that a replacement true black dot is equivalent to a composite three color black dot and is deposited in a position that is related to and dependent on the composite black dot. Therefore even when taken together, the combination does not teach independence of information and does not make the claimed invention obvious.

Dependent claims 2, 3, and 6 are dependent upon a presumed allowable independent claim and the combination of Baba and Vaughn, for the reasons given above, do not make obvious independent claim 1 or the dependent claims thereon. Likewise dependent claims 10, 14, and 22 - dependent upon presumed allowable claims 8, 12, and 21, respectively - are also presumed allowable.

Examiner has rejected claims 5 and 16 under 35 U.S.C. §103(a) as being unpatentable over Baba in view of U.S. Patent No. 5,693,693 to Auslander et al. ("Auslander"). Auslander discloses a conventional bar code of "invisible" ink disposed over visible text. See col. 3, lines 44-56. Auslander, alone or in combination with Baba, discloses neither an accommodation of the first color marks by the second color marks, as required by amended claim 1, nor a deposition of at least second and third colors where marks of a first color are absent, as required by claim 12. Since claim 5 is dependent upon claim 1 and claim 16 is dependent upon claim 12, both of which are believed allowable, claims 5 and 16 are believed allowable.

Examiner has rejected claim 19 under 35 U.S.C. §103(e) as being unpatentable over Liang in view of Vaughn. Claim 19 is dependent upon a now independent and allowable claim 18 and is therefore believed allowable.

Examiner has objected to claims 4, 9, 13, and 15 (claims 18 and 20 are discussed above) as being dependent upon a rejected base claim, but these claims would be allowable if rewritten in independent form including all of the limitation of the base claim and any intervening claims. Accordingly, Applicant has rewritten these claims with the additional base claim limitations as new claims 23, 28, 30, and 32 respectively.

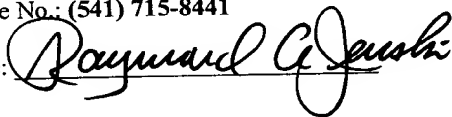
Therefore, in view of the foregoing amendment and remarks, Applicant believes the present application for patent to now be suitable for allowance. Examiner is respectfully requested to withdraw the objections and rejections of the present application and pass the amended application to allowance.

HEWLETT-PACKARD COMPANY  
Legal Department

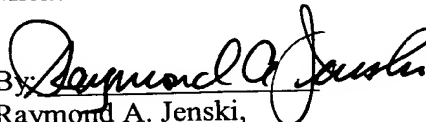
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Typed Name: Raymond A. Jenki  
Telephone No.: (541) 715-8441

Signature:



Respectfully Submitted,  
Michael J. Jones

By:   
Raymond A. Jenki,  
Attorney for Applicant(s)  
Reg. No. 31,267



## ATTACHMENT 1

**This listing of claims will replace all prior versions and listings of claims in this Application.**

1. (Currently amended) A method of printing information on a medium, comprising the steps of:
  - accepting first data representing a first information;
  - accepting second data representing a second information, said second information being unrelated to and independent of adding informational value over said first information;
  - depositing marks of a first color in accordance with said first data; and
  - depositing marks of at least a second color in accordance with said second data and accommodating said marks of a first color, such that said first information and said second information are printed on the medium and are detectable from the printed medium as separate first information and second information.
2. (Cancelled)
3. (Currently amended) A method in accordance with the method of claim 1 ~~2~~ wherein said step of depositing marks of said at least a second color to accommodate said marks of said first color further comprises the step of depositing marks of said at least a second color on the medium at locations where marks of said first color are absent.
4. (Original) A method in accordance with the method of claim 1 wherein said step of depositing marks of at least a second color further comprises the step of depositing marks of a third color in coordination with said second color marks to produce a superpixel.
5. (Original) A method in accordance with the method of claim 1 wherein said step of depositing marks of at least a second color further comprises the step of depositing marks of a second color perceptible to a human and said step of depositing

marks of a first color further comprises the step of depositing marks of a first color imperceptible to a human.

6. (Original) A method in accordance with the method of claim 1 wherein said step of depositing marks of a first color further comprises the step of ejecting drops of a first color ink and wherein said step of depositing marks of at least a second color further comprises the step of ejecting drops of a second color ink.

7. (Cancelled)

8. (Currently amended) A method of printing information on a medium, comprising the steps of:

accepting data representing a first information;

accepting data representing a second information, said second information being unrelated to and ~~adding informational value~~ independent of said first information; and

depositing marks of at least two colors in accordance with said first information data and said second information data such that said first information and said second information are separately detectable from the medium, said first information data determining where a mark is to be deposited on the medium and said second information data determining a color of said at least two colors of marks to be deposited.

9. (Original) A method in accordance with the method of claim 8 wherein said step of depositing marks of at least two colors further comprises the step of depositing said marks of at least two colors in coordination to produce a superpixel.

10. (Original) A method in accordance with the method of claim 8 wherein said step of depositing marks of at least two colors further comprises the steps of ejecting drops of a first color ink and ejecting drops of a second color ink.

11. (Cancelled)

12. (Currently amended) A hardcopy output having information thereon printed by a color printing apparatus, comprising:

a medium having a surface;

marks of a first color deposited on said surface and arranged in a pattern to convey a first information; and

marks of at least second and third colors deposited on said surface in locations where said marks of said first color are absent and conveying a second information by a sequence of said second and third color marks, said second information being unrelated to and independent of said first information.

13. (Original) A hardcopy output in accordance with claim 12 wherein said marks of at least second and third colors further comprises a superpixel coordination of said marks of at least second and third colors.

14. (Original) A hardcopy output in accordance with claim 12 wherein said marks of a first color further comprises dots of a first color ink and wherein said marks of a second color further comprises dots of a second color ink.

15. (Original) A hardcopy output in accordance with claim 12 wherein said marks of a first color further comprises superpixels of a first color and wherein said marks of a second color further comprises superpixels of a second color.

16. (Original) A hardcopy output in accordance with claim 12 wherein said second color is perceptible to a human and said third color is imperceptible to a human.

17. (Cancelled).

18. (Currently amended) A hardcopy output having information thereon printed by a color printing apparatus, comprising:

a medium having a surface;

~~in accordance with claim 17 wherein said~~ marks of at least first, second and third colors, ~~said marks of second and third colors arranged in a further comprises~~ a superpixel coordination of said marks of ~~at least~~ second and third colors , deposited on said surface, arranged in a pattern to convey a first information, and said superpixel coordination disposed within at least a portion of said pattern to convey a second information.

19. (Currently amended) A hardcopy output in accordance with claim ~~18~~ <sup>17</sup> wherein said marks of a first color further comprises dots of a first color ink and ~~wherein~~ said superpixel coordination of marks of a second and third color further comprises superpixels of dots of a second and third color inks.

20. (Currently amended) A hardcopy output having information thereon printed by a color printing apparatus, comprising:

a medium having a surface;

~~in accordance with claim 17 wherein said~~ marks of a first color , comprising ~~further comprises~~ superpixels of a first color , and ~~wherein said~~ marks of a second color , comprising further comprises superpixels of a second color , deposited on said surface, arranged in a pattern to convey a first information, and arranged in a sequence of said at least first and second colors within at least a portion of said pattern to convey a second information.

21. (Currently amended) A printing apparatus placing marks on a medium, comprising:

a first input that accepts first data representing a first information;

a second input that accepts second data representing a second information, said second information being unrelated to and adding informational value independent of said first information;

a first color marking element that deposits marks of a first color in accordance with said first data; and

a second color marking element that deposits marks of at least a second color in accordance with said second data and accommodating said marks of a first color, such



that said first information and said second information are printed on the medium and are detectable from the printed medium as separate first information and second information.

22. (Original) A printing apparatus in accordance with claim 21 wherein said first color marking element further comprises an ink ejector that ejects drops of a first color ink and wherein said second color marking element further comprises an ink ejector that ejects drops of a second color ink.

23. (New) A method of printing information on a medium, comprising the steps of:

accepting data representing a first information;

accepting data representing a second information, said second information adding informational value over said first information;

depositing marks of a first color in accordance with said first data; and

depositing marks of at least a second color in coordination with marks of a third color to produce a superpixel in accordance with said second data, such that said first information and said second information are printed on the medium and are detectable from the printed medium as separate first information and second information.

24. (New) A method of printing information in accordance with the method of claim 23 wherein said steps of depositing marks of a first color and depositing marks of at least a second color and a third color further comprises the steps of:

depositing marks of said first color to accommodate said marks of said second color; and

depositing marks of said second color and said third color to accommodate said marks of said first color.

25. (New) A method in accordance with the method of claim 24 wherein said step of depositing marks of said at least a second color and a third color to accommodate said marks of said first color further comprises the step of depositing marks of said at

least a second color and a third color on the medium at locations where marks of said first color are absent.

26. (New) A method in accordance with the method of claim 23 wherein said step of depositing marks of at least a second color and a third color further comprises the step of depositing marks of a second color and a third color perceptible to a human and said step of depositing marks of a first color further comprises the step of depositing marks of a first color imperceptible to a human.

27. (New) A method in accordance with the method of claim 23 wherein said step of depositing marks of a first color further comprises the step of ejecting drops of a first color ink and wherein said step of depositing marks of at least a second color and a third color further comprises the step of ejecting drops of a second color ink and a third color ink.

28. (New) A method of printing information on a medium, comprising the steps of:

accepting data representing a first information;

accepting data representing a second information, said second information adding informational value independent of said first information; and

depositing marks of at least two colors in coordination to produce a superpixel in accordance with said first information data and said second information data such that said first information and said second information are separately detectable from the medium, said first information data determining where a mark is to be deposited on the medium and said second information data determining a color of said at least two colors of marks to be deposited.

29. (New) A method in accordance with the method of claim 28 wherein said step of depositing marks of at least two colors further comprises the steps of ejecting drops of a first color ink and ejecting drops of a second color ink.

30. (New) A hardcopy output having information thereon printed by a color printing apparatus, comprising:

a medium having a surface;

marks of a first color deposited on said surface and arranged in a pattern to convey a first information; and

marks of a superpixel coordination of at least second and third colors deposited on said surface in locations where said marks of said first color are absent and conveying a second information by a sequence of said second and third color marks.

31. (New) A hardcopy output in accordance with claim 30 wherein said marks of a first color further comprises dots of a first color ink and wherein said marks of at least second and third colors further comprise dots of a second and a third color ink, respectively.

32. (New) A hardcopy output having information thereon printed by a color printing apparatus, comprising:

a medium having a surface;

marks of superpixels of a first color deposited on said surface and arranged in a pattern to convey a first information; and

marks of superpixels of at least second and third colors deposited on said surface in locations where said marks of said first color are absent and conveying a second information by a sequence of said second and third color marks.

33. (New) A hardcopy output in accordance with claim 32 wherein said marks of superpixels of a first color further comprises dots of a first color ink and wherein said marks of superpixels of second and third colors further comprise dots of a second and a third color ink, respectively.

34. (New) A hardcopy output in accordance with claim 20 wherein said marks of superpixels of a first color further comprises superpixels of dots of a first color ink and

wherein said marks of a second color further comprises superpixels of dots of a second color ink.